

IN THE CLAIMS

1. (Currently amended) A processor-implemented method of managing data associated with a given domain, comprising the steps of:

maintaining a specification of data attributes representing one or more types of service level management data elements;

maintaining a specification of algorithms representing one or more types of service level management operations performable in accordance with the data attributes; and

maintaining a specification of relationships representing service level management relationships between the data attributes and the algorithms;

wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in each of a plurality of hierarchical levels of a storage framework;

wherein the hierarchical levels are specified based on the given domain with which the data being managed is associated such that one level of the storage framework is a refinement of another level of the storage framework; and

wherein the plurality of hierarchical levels comprises:

a service level agreement management domain specification comprising template representations of a plurality of service offerings;

at least one service offering specification, each service offering specification comprising a template representation of a given one of the plurality of service offerings; and

at least one contract instance specification, each contract instance specification comprising a template representation of a given service level agreement; and

the method further comprising the steps of:

generating using the processor at least one data flow graph using at least a portion of the maintained specifications; and

determining using the processor a representation of a request from an application as a traversal of at least a portion of the at least one data flow graph.

2. (Canceled).

3. (Original) The method of claim 1, wherein the hierarchical levels of the storage framework maintain at least one of the data attributes, the algorithms and the representations in a template-based representation.

4. (Original) The method of claim 1, wherein data attributes are represented so as to expose at least one of a nature of the data through a plurality of ontologies, a structure of the content of the data, and a structure of a mechanism by which the data may be retrieved.

5. (Original) The method of claim 1, wherein the algorithms are represented so as to expose at least one of a nature of the algorithms through a plurality of ontologies, a structure of parameters of the algorithms expressed according to a nature of the data attributes, and a structure of a mechanism by which code for the algorithms may be retrieved.

6. (Original) The method of claim 1, wherein the relationships between the data attributes and the algorithms are represented in support of a plurality of computations for computing domain-specific results.

7. (Currently amended) The method of claim 1, further comprising the step of, in accordance with [[an]] the application, retrieving at least a portion of the data attributes and the algorithms to perform a computation sequence.

8. (Currently amended) The method of claim 7, wherein the computation sequence is based on a specification of a computation start point and a computation end point as described by [[a]] the at least one data flow graph.

9. (Original) The method of claim 1, further comprising the step of, in accordance with an application, one of creating and managing templates.

10. (Original) The method of claim 1, further comprising the step of, in accordance with an application, one of populating and managing a template instance for a particular template.

11. (Original) The method of claim 1, wherein relationships between data attributes which support non-processing relationships are maintained in support of a plurality of functions.

12. (Original) The method of claim 1, wherein the data attributes and the algorithm are verifiable with respect to at least one of consistency and correctness.

13. (Original) The method of claim 1, further comprising the step of deferring a decision as to whether to apply a computation step in support of a desired result from a computation sequence in accordance with metadata within the storage framework.

14. (Original) The method of claim 1, wherein a relationship is maintained between data at a domain specification level of the storage framework and an instance specification level of the storage framework.

15. (Currently amended) The method of claim 1, further comprising the step of, in accordance with [[an]] the application, traversing one or more processing relationships among a plurality of templates and template instances maintained in accordance with the storage framework so as to ascertain one or more computation relationships.

16. (Original) The method of claim 1, wherein the given domain comprises a service level management domain.

17. (Original) The method of claim 16, wherein the service level management domain supports proactive management of a plurality of service level agreements allowing one or more of service level agreement reporting, a customer-related business impact evaluation and a service provider internal business impact evaluation in accordance with relationships represented within flow graphs associated with the storage framework.

18. (Canceled).

19. (Previously presented) The method of claim 16, wherein the service level management data elements comprise one or more of service level agreement contract data, internal service level management data, and service level management algorithm specifications.

20. (Previously presented) The method of claim 16, wherein the service level management algorithms comprise one or more of measurement data adjudication and service level evaluation for a particular category of data element.

21. (Previously presented) The method of claim 16, wherein the service level management relationships comprise evaluation in accordance with flow graph specifications and relationship management between service level agreement data and internal service level management data.

22. (Original) The method of claim 19, wherein relationships between service level agreement contract data and other service level management data are maintained in support of a plurality of service level management functions.

23. (Original) The method of claim 16, further comprising the step of, in accordance with an application, traversing one or more service level management related processing relationships among a plurality of templates and template instances maintained in accordance with data flow graphs as

maintained within the storage framework so as to ascertain one or more service level management computation relationships.

24. (Original) The method of claim 16, further comprising the step of prioritizing one or more data access requests based on a service provider business impact assessment to the storage framework so as to sequence data results in accordance with one or more service management objectives.

25. (Original) The method of claim 1, wherein data is obtainable from one or more semantically equivalent data sources.

26. (Original) The method of claim 1, wherein data is one of original data and derived data, wherein original data is data external to the storage framework and derived data is data maintained within the storage framework.

27. (Currently amended) Apparatus for managing data associated with a given domain, comprising:

a memory for storing a storage framework; and

at least one processor coupled to the memory and operative to: (i) maintain a specification of data attributes representing one or more types of service level management data elements; (ii) maintain a specification of algorithms representing one or more types of service level management operations performable in accordance with the data attributes; and (iii) maintain a specification of relationships representing service level management relationships between the data attributes and the algorithms; wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in each of a plurality of hierarchical levels of the storage framework; wherein the hierarchical levels are specified based on the given domain with which the data being managed is associated such that one level of the storage framework is a

refinement of another level of the storage framework; and wherein the plurality of hierarchical levels comprises: (i) a service level agreement management domain specification comprising template representations of a plurality of service offerings; (ii) at least one service offering specification, each service offering specification comprising a template representation of a given one of the plurality of service offerings; and (iii) at least one contract instance specification, each contract instance specification comprising a template representation of a given service level agreement; wherein the processor is further operative to generate a data flow graph using at least a portion of the maintained specifications, and to determine a representation of a request from an application as a traversal of at least a portion of the data flow graph.

28. (Currently amended) An article of manufacture for managing data associated with a given domain, comprising a ~~machine~~ computer readable storage medium containing one or more programs which when executed implement the steps of:

- maintaining a specification of data attributes representing one or more types of service level management data elements;

- maintaining a specification of algorithms representing one or more types of service level management operations performable in accordance with the data attributes; and

- maintaining a specification of relationships representing service level management relationships between the data attributes and the algorithms;

- wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in each of a plurality of hierarchical levels of a storage framework;

- wherein the hierarchical levels are specified based on the given domain with which the data being managed is associated such that one level of the storage framework is a refinement of another level of the storage framework; and

- wherein the plurality of hierarchical levels comprises:

- a service level agreement management domain specification comprising template representations of a plurality of service offerings;

at least one service offering specification, each service offering specification comprising a template representation of a given one of the plurality of service offerings; and

at least one contract instance specification, each contract instance specification comprising a template representation of a given service level agreement; and

wherein the one or more programs when executed further implement the steps of:
generating at least one data flow graph using at least a portion of the maintained
specifications; and

determining a representation of a request from an application as a traversal of at least a
portion of the at least one data flow graph.

29. (Currently amended) An article of manufacture comprising a computer readable storage medium containing a data store for use in managing data associated with a given domain, the data store comprising:

a first data storage portion for maintaining a specification of data attributes representing one or more types of service level management data elements;

a second data storage portion for maintaining a specification of algorithms representing one or more types of service level management operations performable in accordance with the data attributes; and

a third data storage portion for maintaining a specification of relationships representing service level management relationships between the data attributes and the algorithms;

wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in each of a plurality of hierarchical levels of a storage framework;

wherein the hierarchical levels are specified based on the given domain with which the data being managed is associated such that one level of the storage framework is a refinement of another level of the storage framework; and

wherein the plurality of hierarchical levels comprises:

a service level agreement management domain specification comprising template representations of a plurality of service offerings;

at least one service offering specification, each service offering specification comprising a template representation of a given one of the plurality of service offerings; and

at least one contract instance specification, each contract instance specification comprising a template representation of a given service level agreement; and

wherein the data store further comprises at least one data flow graph generated using at least a portion of the maintained specifications such that a request from an application is represented as a traversal of at least a portion of the at least one data flow graph.

30. (Currently amended) A processor-implemented method of providing a service for managing data associated with a given domain, comprising the step of:

a service provider providing a processor-implemented data management system in accordance with one or more customers, the data management system being operative to: (i) maintain a specification of data attributes representing one or more types of service level management data elements; (ii) maintain a specification of algorithms representing one or more types of service level management operations performable in accordance with the data attributes; and (iii) maintain a specification of relationships representing service level management relationships between the data attributes and the algorithms; wherein the data attribute specification, the algorithm specification and the relationship specification are maintained in each of a plurality of hierarchical levels of a storage framework; wherein the hierarchical levels are specified based on the given domain with which the data being managed is associated such that one level of the storage framework is a refinement of another level of the storage framework; and wherein the plurality of hierarchical levels comprises: (i) a service level agreement management domain specification comprising template representations of a plurality of service offerings; (ii) at least one service offering specification, each service offering specification comprising a template representation of a given one of the plurality of service offerings; and (iii) at least one contract instance specification, each contract instance specification comprising a template representation of a given service level agreement; wherein the data management system is further operative to generate using the processor at least one data flow graph using at least a portion

of the maintained specifications; and to determine using the processor a representation of a request from an application as a traversal of at least a portion of the at least one data flow graph.

31. (Original) The method of claim 30, wherein service level agreement report data is generated for a customer in accordance with one or more clauses of a service level agreement such that the one or more clauses are mapped to service level agreement data and is associated with a service provider representation of the data using one or more relationship mappings and service level agreement report data is generated in accordance with a sequence of processing relationships.

32. (Original) The method of claim 30, wherein customer business impact assessment data is generated for a customer in accordance with one or more expressed wishes of a customer such that one or more business impact evaluation data wishes of the customer are mapped to customer-related business impact data and is associated with a service provider representation of service level management data using relationship mappings and the customer-related data is generated in accordance with a sequence of processing relationships.

33. (Original) The method of claim 32, wherein the business impact evaluation data may provide a customer with one or more customer relevant business impact assessments.

34. (Original) The method of claim 33, wherein the one or more customer relevant business impact assessments comprise one or more customer relevant what-if scenario result data sets.

35. (Original) The method of claim 30, wherein service provider business impact management data is generated for a customer in accordance with one or more wishes of the service provider such that the one or more service provider business impact evaluation data wishes are mapped to provider-facing business impact data and is associated with a service provider representation of service level management data using relationship mappings and service level

management business impact data of the service provider is generated in accordance with a sequence of processing relationships.

36. (Original) The method of claim 35, wherein business impact evaluation data provides a service provider with one or more provider relevant business impact assessments.

37. (Original) The method of claim 35, wherein the one or more provider relevant business impact assessments comprise one or more what-if scenario result data sets and aggregations of business impact across multiple customers.